Augmented Reality Trail:
an effective tool to engage students in learning?

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Introduction

Technology is regularly used in an effort to increase student engagement and thought to improve student outcome (Mayer, 2005). There are many examples of Augmented Reality being used to enhance learning, specifically in medical training. AR trails are being used by a number of organisations for tourism and knowledge exchange, however there is little research on the effect AR trails have on student engagement and attainment. This project was created to see the response to the trail, and to gauge how effective it was in facilitating learning.

Student Quotes

‘It was nice to get up and be active’

‘Created great team work’

‘It was engaging and fun’

‘It gave me confidence to wander into new places’

Method

A trail of seven posters was created around the University campus on the themes of environmental sustainability and sustainable development. Each of these posters was embedded with Augmented Reality using a commercial app called Zappar. When a mobile device with the app was aimed at the poster, a short animated video appeared on the particular subject. At the end of each video, directions to the next poster were given and a letter was shown. Participants collected all the letters from the videos to create a word, which they could then trade for a small prize at the end of the trail.

Data was collected through a variety of methods.

- Questionnaires completed by participants.
- Class discussion following participation
- Interviews with a selection of participants
- Observation and reflection

Thematic Analysis (Braun and Clarke, 2006) was used to identify themes from the results.

Results

The main insights gained from interviews of participants:

- they found new locations around the campus
- they learnt about services available to them.
- it made them think about the environment
- some of the videos were too long

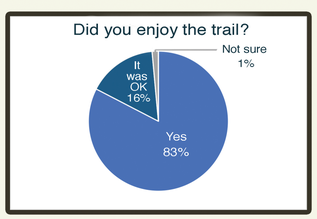
Feedback from a lecturer who used the trail as directed learning was that she found:

- about a third of the class actively did the trail
- she was able to reference the messages in lecture
- it helped the students understanding of sustainability

Feedback from students who took part of the trail as part of a practical session:

- enjoyed that it got them out and moving
- thought it created great team work
- some were more interested in the technology rather than the message being put across

69 participants completed questionnaires.



Conclusions

As a tool for engaging students in learning, the data suggests the Augmented Reality trail has been effective. The majority of students who took part in the trail engaged well with the process and demonstrated that they learnt something from it. Unfortunately, what they learnt was not always the intended message, and the novelty of the technology was distracting for some.

The trail was a good tool to introduce themes as part of directed learning or as part of a particular session to explore learning in an alternate way. Students were less likely to voluntarily go on the trail, even when prizes were used as incentives, with just 16 independently participating.

Creating an Augmented Reality Trail takes a lot of time and expertise to create, which is unrealistic for lecturers to create their own. However, if there were specific trails which could be downloaded and used, this could be an effective future tool in engaging young people in learning.

References

Mayer, R. E. (2005). Five common, but questionable principles of multimedia learning. In R. E. Clark & D. F. Feldon (Eds.), Cambridge handbook of multimedia learning (pp. 97-116). Cambridge, England: Cambridge University Press.

Braun, V. Clarke, V. (2008) Using thematic analysis in psychology. Qualitative Research in Psychology. 3:2 77 - 101